

III. Remarks

Claims 1, 4-14 and 16-20 were previously pending.

Claims 6 and 7 have been canceled without prejudice or disclaimer.

Claims 1 and 14 have been amended.

Claims 4, 5, 8-13 and 16-20 have been maintained in their previously-presented form.

As a result, claims 1, 4, 5, 8-14 and 16-20 are pending.

Favorable consideration of claims 1, 4, 5, 8-14 and 16-20 is respectfully requested.

Interview Conducted on October 27, 2009

Applicant takes this opportunity to thank Examiner Popa for the courtesies extended during the telephonic interview conducted on October 27, 2009, during which the rejections of claims 1, 4-14 and 16-20 over U.S. Patent No. 5,895,631 to Tajima ("Tajima '631"), either alone or in combination with other references identified below, and the required modifications of Tajima '631 to support the rejections, were discussed. It is Applicant's understanding that the required modification of Tajima '631 discussed during the telephone interview includes:

1. providing that the magnetic particles G are initially separated from the reaction liquid and disposed in the chip (or pipette) T4; and
2. reducing the diameter of the inlet/outlet of the chip (or pipette) T4 so that the magnetic particles G cannot pass through the inlet/outlet of the chip (or pipette) T4.

Applicant stated that this modification rendered Tajima '631 unsatisfactory for its intended purpose and thus the modifications were not obvious. The Examiner disagreed. No agreement was reached as to the overall allowability of the pending claims.

Claim Objection

Claim 1 stands objected to because of the recitation "the smaller diameter" in line 7 of the claim. In response, claim 1 has been amended to delete this recitation in line 7 and thus the objection to claim 1 should be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 1, 4-9, 12-14 and 16-20 stand rejected under 35 U.S.C. §103(a) over Tajima '631. As noted above, claims 6 and 7 have been canceled. Insofar as it may be applied against the present claims, this rejection is respectfully traversed.

Claim 1 has been amended by, *inter alia*, including subject matter from previously pending (now canceled) claims 6 and 7. As a result, amended claim 1 recites the following:

A carrier housing/processing apparatus comprising;
one or a plurality of carriers fixed or able to be fixed with chemical substances such as ligands;

a transferable carrier housing section comprising:
a large diameter section which accommodates said carrier, and
a small diameter section connected to the large diameter section, the small diameter section comprising a tip, and a fluid inlet/outlet at the tip;
a plurality of containers provided outside of said transferable carrier housing section;
a drawing/discharging section configured to draw a fluid through said inlet/outlet and into said transferable carrier housing section, and then discharge the fluid out of said transferable carrier housing section through said inlet/outlet; and

a transferring section which transfers said transferable carrier housing section relatively with respect to the containers, the transfer of said transferable carrier housing section relatively with respect to the containers including the transfer of the large diameter section and the small diameter section relatively with respect to the containers, the transfer of the small diameter section relatively with respect to the containers including the transfer of the tip and the inlet/outlet relatively with respect to the containers,

wherein said carrier is formed in a size or a shape not allowing said carrier to pass through said inlet/outlet, and in a state of holding said carrier in said housing section, by self-weight of said carrier, a fluid is drawn and discharged,

wherein said carrier housing section further comprises an opening having a size enabling said carrier to pass through, and said drawing/discharging section is provided with a nozzle which detachably connects with said opening, and said carrier is formed in a size capable of passing through said opening but not capable of passing through said inlet/outlet,

wherein the smaller diameter of the small diameter section of said transferable carrier housing section enables insertion of the smaller diameter section into each of the containers,

the insertion of the smaller diameter section into each of the containers including the insertion of the tip and the inlet/outlet into each of the containers, and

wherein said carrier or said carrier housing section is provided with an adhesion prevention section for keeping said carrier from being adhered to the inner wall of said carrier housing section.

Claims 4-9, 12, 13 and 19 depend directly or indirectly from claim 1 and therefore each includes at least the foregoing elements. Claim 14 is a method version of claim 1 and claims 16-18 and 20 depend directly or indirectly from claim 14, thus each of claims 14, 16-18 and 20 includes at least the foregoing elements.

35 U.S.C. §103(a) provides that:

[a] patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Here, there is no argument that there are at least two differences between the claimed subject matter and Tajima '631. Specifically the differences are:

- 1) Tajima '631 does not disclose a carrier that is sized or shaped so that the carrier cannot pass through the inlet/outlet, as required by amended claim 1 (Office Action mailed April 29, 2009, page 4, lines 2-4; and discussed during the telephone interview on October 27, 2009); and
- 2) Tajima '631 does not disclose an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section, as required by amended claim 1 (Office Action mailed April 29, 2009, page 4, lines 12-15).

For the reasons set forth below, the differences between the claimed subject matter and Tajima '631 would not have been obvious to a person having ordinary skill in the art.

1. **The modification of Tajima '631 to provide a carrier that is sized or shaped so that the carrier cannot pass through the inlet/outlet is not obvious because the modification renders Tajima '631 unsatisfactory for its intended purpose.**

MPEP §2143.01(V) provides that:

the proposed modification cannot render the prior art unsatisfactory for its intended purpose.

The Examiner asserts that it is obvious to modify Tajima '631 to provide a carrier that is sized or shaped so that the carrier cannot pass through the inlet/outlet, writing that:

[w]ith respect to the magnetic particles not being able to pass through the inlet-outlet, one of skill in the art would be motivated to do such in order to avoid loss of magnetic beads (and therefore, loss of captured material) (Office Action mailed April 29, 2009, page 4 lines 7-10).

One intended purpose of the liquid processing method of Tajima '631 is to permit the magnetic particles G to pass through the inlet/outlet of the chip (or pipette) T4 during the pumping (sucking and/or discharging) of fluid through the inlet/outlet in order to at least:

- a. draw the magnetic particles G and a reaction liquid from a cell C4 through the inlet-outlet of the chip (or pipette) T4 and into the chip T4 to separate the magnetic particles G with DNA bonded thereto from the reaction liquid¹;
- b. mix and agitate a restriction enzyme fluid and the magnetic particles G in the chip (or pipette) T4 and a cell C5 into which the inlet/outlet of the chip T4 extends²;
- c. mix and agitate a reagent and the magnetic particles G in the chip (or pipette) T4 and a cell C6 into which the inlet/outlet of the chip T4 extends³; and
- d. draw the magnetic particles G and a DNA solution from a cell through the inlet-outlet of the chip (or pipette) T4 and into the chip T4.⁴

This intended purpose of the liquid processing method of Tajima '631 is destroyed and rendered unsatisfactory by the required modification of (1) providing that the magnetic particles G are initially separated from the reaction liquid and disposed in the chip (or pipette) T4 and (2) reducing the diameter of the inlet/outlet of the chip (or pipette) T4 so that the magnetic particles G cannot pass through the inlet/outlet of the chip (or pipette) T4. Since the disclosure in a

¹ See drawing under heading STEP 15 in Fig. 13 and col. 17, lines 36-65 of Tajima '631, which disclose that the inlet/outlet of the chip T4 is steeped into the reaction liquid with the magnetic particles G so that the separate between the magnetic particles G and the reaction liquid is executed.

² See drawing under heading STEP 16 in Fig. 13 and col. 18, lines 14-29 of Tajima '631, which disclose that the magnetic body M has been removed from the chip (or pipette) T4 so that the magnetic particles G are free to pass through the inlet/outlet during the pumping (sucking and discharging) of the restriction enzyme fluid between the cell C5 and the chip T4.

³ See drawing under heading STEP 18 in Fig. 13 and col. 18, lines 42-56 of Tajima '631, which disclose that the magnetic body M has been removed from the chip (or pipette) T4 so that the magnetic particles G are free to pass through the inlet/outlet during the pumping (sucking and discharging) of the reagent between the cell C6 and the chip T4.

⁴ See col. 19, line 65 through col. 20, line 6 of Tajima '631.

reference cannot be modified to render the disclosure unsatisfactory for its intended purpose, the rejection of claims 1, 4-9, 12-14 and 16-20 under 35 U.S.C. §103(a) over Tajima '631 is improper and should be withdrawn.

- 2. The modification of Tajima '631 to provide an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section is not obvious because the modification renders Tajima '631 unsatisfactory for its intended purpose.**

As noted above, MPEP §2143.01(V) provides that:

the proposed modification cannot render the prior art unsatisfactory for its intended purpose.

The Examiner asserts that it is obvious to modify Tajima '631 to provide an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section, writing that:

[w]ith respect to the limitations in claims 6 [and] 7 ... one of ordinary skill in the art would have known to use the claimed adhesion prevention ... section[] when needed. Thus, the claimed invention was prima facie obvious at the time the invention was made (Office Action mailed April 29, 2009, page 4, lines 12-15).

Another intended purpose of the liquid processing method of Tajima '631 is to adhere the magnetic particles G against the inner wall of the chip (or pipette) T4 in order to at least:

- a. separate the magnetic particles G with DNA bonded thereto from a reaction liquid by adhering the particles G to the inner wall of the chip C4 and discharging the reaction liquid into the cell C4;
- b. efficiently transfer the chip T4 and the magnetic particles G adhered to the inner wall thereof from the cell C4 to the cell C5 and initiate the pumping (sucking and discharging) through the inlet/outlet to mix and agitate a restriction enzyme fluid in the cell C5 with the magnetic particles G in both the cell C5 and the chip T4;
- c. separate the magnetic particles G from the restriction enzyme fluid by adhering the particles G to the inner wall of the chip C4 and discharging the restriction enzyme fluid into the cell C5; and
- d. efficiently transfer the chip T4 and the magnetic particles adhered to the inner wall thereof from the cell C5 to the cell C6 and initiate pumping (sucking and

discharging) through the inlet/outlet to mix and agitate a reagent in the cell C6 with the magnetic particles G in both the cell C6 and the chip T4.⁵

This intended purpose of the liquid processing method of Tajima '631 is destroyed and rendered unsatisfactory by the required modification of providing an adhesion prevention section for keeping the magnetic particles G from being adhered to the inner wall of the chip (or pipette) T4. Since the disclosure in a reference cannot be modified to render the disclosure unsatisfactory for its intended purpose, the rejection of claims 1, 4-9, 12-14 and 16-20 under 35 U.S.C. §103(a) over Tajima '631 is improper and should be withdrawn.

3. **The modification of Tajima '631 to provide an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section is not obvious because the modification improperly relies on the capabilities of one of ordinary skill in the art rather than articulated reasoning with some rational underpinning.**

MPEP §2142 specifies that:

[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.**" In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also KSR, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). (emphasis added)

The Examiner has not provided any articulated reasoning with some rational underpinning to modify Tajima '631 to provide an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section, as required by MPEP §2142. Instead, the Examiner improperly relies on the capabilities of one of ordinary skill in the art as the alleged reason to modify Tajima '631 without providing any facts to support the Examiner's conclusory statements. This improper reliance is directly prohibited by MPEP §2143.01(IV), which provides that:

⁵ See Fig. 13 and col. 17, line 36 through col. 18, line 56 of Tajima '631.

[the] fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish prima facie obviousness.

Since the Examiner has not provided any articulated reasoning with some rational underpinning to modify Tajima '631 to provide an adhesion prevention section for keeping the carrier from being adhered to the inner wall of the carrier housing section, the rejection of claims 1, 4-9, 12-14 and 16-20 under 35 U.S.C. §103(a) over Tajima '631 is improper and should be withdrawn.

Moreover, it is not appropriate for the Examiner to take official notice of facts without citing a prior art reference where the facts are asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. See, e.g., MPEP 2144.03 and In re Ahlert, 424 F.2d at 1091. Applicant therefore respectfully requests that the Examiner either: (1) demonstrate that, at the time of the invention, providing an adhesion prevention section for keeping the magnetic particles G from being adhered to the inner wall of the chip (or pipette) T4, is capable of instant and unquestionable demonstration; or (2) provide a declaration pursuant to 37 C.F.R. § 1.104(d)(2) that details the personal knowledge of the Examiner as to providing, at the time of the invention, an adhesion prevention section for keeping the magnetic particles G from being adhered to the inner wall of the chip (or pipette) T4. In the absence of some documentary evidence supporting the Examiner's conclusory statement regarding the capabilities of one of ordinary skill in the art, the rejection of claims 1, 4-9, 12-14 and 16-20 under 35 U.S.C. §103(a) is improper and should be withdrawn.

For all the foregoing reasons, it is respectfully requested that the rejection of claims 1, 4-9, 12-14 and 16-20 under 35 U.S.C. §103(a) over Tajima '631 be withdrawn.

Claims 1, 4-14 and 16-20 stand rejected under 35 U.S.C. §103(a) over Tajima '631 in view of U.S. Patent No. 5,919,706 to Tajima ("Tajima '706") and U.S. Patent No. 6,100,079 to Tajima ("Tajima '079"). As noted above, claims 6 and 7 have been canceled without prejudice or disclaimer. Insofar as it may be applied against the present claims, this rejection is respectfully traversed.

The deficiencies of Tajima '631 with respect to claims 1, 4, 5, 8, 9, 12-14 and 16-20 are noted above. Tajima '706 discloses a liquid processing method but does not disclose the

differences between claim 1 and Tajima '631. Tajima '079 discloses a method for treating biopolymers but does not disclose the differences between claim 1 and Tajima '631. Claims 10 and 11 depend from and include the subject matter of claim 1. Since neither Tajima '706 nor Tajima '079 discloses the differences between claim 1 and Tajima '631, it is clear that the combination of Tajima '631, Tajima '706 and Tajima '079 does not disclose the subject matter of claim 1 and of claims 10 and 11 which depend therefrom. In addition, it would not be obvious to modify the disclosures of Tajima '631, Tajima '706 and Tajima '079 to include the subject matter of any of claims 1, 4, 5, 8-14 and 16-20 because there is no reason to so modify the disclosures. Accordingly, it is requested that the rejection of claims 1, 4-14 and 16-20 under 35 U.S.C. §103(a) over Tajima '631 in view of both Tajima '706 and Tajima '079 be withdrawn.


Conclusion

It is believed that all matters set forth in the Office Action mailed April 29, 2009 have been addressed. Applicant has made a diligent effort to advance the prosecution of this application by canceling claims 6 and 7, amending claims 1 and 14, and submitting arguments in support of the patentability of claims 1, 4, 5, 8-14 and 16-20.

In view of all of the above, the allowance of claims 1, 4, 5, 8-14 and 16-20 is respectfully requested.

The Examiner is invited to call the undersigned at the below-listed telephone number if a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,



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